

WHAT IS CLAIMED IS:

1. A method of displaying signals obtained from monitoring a phenomenon, comprising:

while the phenomenon is being monitored producing multiple real signals in electronic form, the multiple real signals each having a standard characteristic and real parameters of different real values;

assigning a separate visual distinction to at least several of the multiple signals to produce multiple visually distinct signals;

displaying the multiple visually distinct signals while superimposed with respect to one another.

2. The method of claim 1, wherein the real signals are analog signals, the method further comprising interpolating the real analog signals to produce the multiple virtual signals.

3. The method of claim 2, further comprising digitalizing the analog real signals and the analog virtual signals before displaying the signals in separate colors.

4. The method of claim 1, wherein the real signals are analog signals, the method further comprising converting the real analog signals to digital signals prior to assigning a separate visual distinction to each signal.

5. The method of claim 4, wherein the signals have different DC components, the method further comprising centering the signal by bringing the signal to a standard baseline.

6. The method of claim 3, comprising adjusting the real values of the real parameters.

7. The method of claim 6, wherein the real parameters are real phase angle and real amplitude for each real signal.

8. The method of claim 7, wherein the phenomenon is a detected eddy current.

9. The method of claim 8, wherein the eddy current is an eddy current induced in a metallic object and wherein there is an anomaly in the form of a defect in the metallic object.

10. The method of claim 9, wherein the metallic object is a tube and the anomaly is a defect in the tube.

11. The method of claim 10, wherein the multiple real signals are produced with a differential probe, the method further including converting the multiple real and virtual signals to lissajous transforms generated by voltage vector sweeps and phase angles when the multiple signals are displayed.

12. The method of claim 11, wherein the anomaly is one occurring in a group of anomalies, comprising through holes, interior pits, exterior pits, magnetic inclusions, dents and roll stops, each of which has distinctive display of the multiple colored signals.

13. The method of claim 1, comprising
assigning a color to each signal after interpolating the real signal to create the virtual signals wherein the signals are in channels of increasing frequency and the assigned colors are of increasing visible frequencies from a lowest visible frequency to a highest visible frequency.

14. The method of claim 13, wherein the display includes a waveform created by writing the lower visible frequency color first and superimposing a higher visible frequency color thereon in order from lower visible frequencies to higher visible frequencies.

15. The method of claim 14, wherein the display includes a waveform created by writing higher visible frequency colors in an order from higher visible frequencies to lower visible frequencies with a color being assigned to the highest frequency signal which contrasts with the highest visible frequency.

16. The method of claim 15, wherein the display includes a plot of only the end points of the waveforms.

17. The method of claim 14, wherein the display includes a plot of only the end points of the waveforms.